[0179] 8. User Scenarios

[0180] The following description includes further examples of how web services are used.

[0181] a) Signing Up for Web Services for Anytime, Anywhere, Any Device Access

[0182] The user wishes to sign up for an online calendar service, and be able to access the calendar from any device, anywhere, anytime. The user creates an account with a network identity-enabled calendar service. The user enters all the user's appointments in the calendar at the service provider's web site using the user's desktop browser. The user also wants to keep the user's personal digital assistant (PDA) synchronized with the user's online calendar. The user can do that by using the calendar service provider's synchronization service. While at the calendar service provider's web site, the user learns that the user could also keep the user's address book online and similarly synchronized. The user's calendar and address book would only be visible to the user, unless the user explicitly allows other parties to access it. The user also signs up for the address book service.

[0183] b) Authenticated User Invoking a Web Service Using a Browser Client

[0184] The user is at the user's desktop and wants to invoke the user's calendar to view the user's schedule for the week. The user has already logged into her network identity during this session. When the user visits the calendar service provider and automatically signs in using the user's network identity, the user's calendar pops up in a separate window. The user can view, edit, and add to the user's calendar. While logged into the user's calendar, the user receives an alert for a meeting across town starting in thirty minutes. The user exits the user's browser session and travels to the meeting by automobile.

[0185] c) Authenticated User Invoking a Web Service Using a Non-Browser Client

[0186] While in the user's automobile, the user realizes she forgot to check the exact location of the meeting. The information is stored with the user's calendar appointment. The user pulls out the user's cell phone, and launches its built-in browser. Alternatively, the user's activates the automobile's integrated Internet browser. With the touch of a button, the user is logged right into her calendar service. The user previously set up the service to log her automatically into the calendar when accessing it from the her phone or automobile. The calendar service is smart enough to know where the user is invoking the service from and responds accordingly. Sensing that the user is probably checking for her next appointment, the calendar service displays details of the user's next appointment on screen. Busy concentrating on the road, the user hits a button to have the service read the user's appointment out to her. She hears the location and disconnects.

[0187] d) Automatic Invocation of a Web Service

[0188] While in her meeting, the user hears her cell phone beep. It is an alert from the user's broker about a stock the user owns. The user previously set up a trigger with her broker service provider to alert her when the stock reached USD $80. As soon as the stock hit that price, the broker automatically sent an alert via e-mail, as well as via the short message service (SMS) feature on her mobile phone. If the user had been online at the user's desktop and logged into the user's broker service, the user could have received the alert directly on the desktop.

[0189] e) Third Party Invoking User's Web Service

[0190] The user logs in and goes to favorite Internet portal. The user clicks on calendar and selects appropriate dates for a vacation. The user taps on the vacation planning button and automatically is taken and logged into an on-line auction site or travel agent where choices for airfare, hotel, and car rentals are displayed. The user makes selection and billing occurs to a frequent flier credit card. The user is automatically taken and logged into an airline frequent flier affinity program page where an offer for an upgrade is displayed. The user selects to upgrade and the information is automatically entered into the user's favorite portal. Newspaper and mail delivery notifications are generated and logged in automatically and also entered into the calendar for notification. Finally, the user sits in the airline seat and uses his secure airline frequent flyer card to "login." The user's preferences of music and movies are pre-set, as well as the favorite reclining settings of the seat.

[0191] f) Third Party Requesting Authorization for a User's Web Service

[0192] If the travel agent service provider did not have the authority to invoke the user's calendar service, it will submit a request for authorization to the user's calendar service. It may inform the user it is doing so, and the user can then log into the user's calendar (if not already logged in) and receive the request for authorization. The user may then grant the travel agent service provider the authority to add and modify events it adds to the user's calendar until the day after the user returns from vacation. The user may also explicitly revoke this permission at any time before then.

[0193] g) User Managing Web Service Authorization Policies

[0194] The user can manage authorization policies for the user's services. At the user's service provider, the user is presented with a "control panel" web page, where the user can view each entity that has been granted access to the user's service and the level of access control granted. Each service can define its own access control levels. For example, the calendar service could have access control rights for viewing, modifying, deleting, and creating events. Access can be granted to individual users using their network identity or to other services such as the travel agent service provider in the above use case. Other services are represented by a certificate signed and verified by a network identity-approved certificate authority.

[0195] 9. Enterprise User Scenarios

[0196] The following description includes three examples of distributed network identity uses in an enterprise environment:

EXAMPLE 1

[0197] An insurance company called Insursave offers their customer 7 different service offerings on the Internet. Each of the programs is run by different groups and users have to create an account on each of the systems. They want to offer consumers the convenience of offering their customers bundled pricing and services. To do this, they need to tie